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ABSTRACT

The paper addresses the development of early intervention programs with hearing impaired infants and toddlers and their families. It stresses the importance of working cooperatively with parents, the multidisciplinary approach, appropriate assessment of both child and family, appropriate intervention including monitoring of progress, and assistance in the transition from early childhood programs to regular school programs. Assessment is discussed in terms of initial and ongoing assessment, assessment of general development, of language, of cognition, of audition, and weekly monitoring. Checklists of expected performance at various ages are provided. Intervention is considered next with sections on home-based, center-based, and combination programs; curriculum; the Individualized Family Service Plan (IFSP); auditory training; communication; language; parent trainers; counselor role; and transitioning. Characteristics of a model program for this population include involving the entire family, developing an IFSP for each family, assessing and monitoring growth, providing a support system for the family, providing a curriculum for each family, and empowering parents through education and support. Appended are objectives and recording forms for auditory training. Includes 14 references. (DB)

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Management of Birth to Three Hearing-Impaired Infants and Their Families

Research suggests that early intervention with infants, in which problems are identified and treated as soon as possible, can make a significant difference later in their physical, cognitive, and social abilities, and can minimize the effects of present or potential handicaps (Weiner & Koppelman, 1989). Similar statements supporting the value of early intervention are prevalent in the literature (e.g., Bryant & Ramey, 1985; Guralnick & Bennett, 1987; Guralnick, 1988).

This paper is based upon the results of research, examples of which are given above, 17 years of directing an infant/toddler program in rural and urban western Washington, and current "best practices." It is also based upon the premise that there are major differences between infant/toddler and school programs. Many professionals who are trained only to work with the school-age population need some assistance in establishing programs that address the needs of hearing-impaired infants and their families within the structure of P.L. 99-457. Such programs necessitate:

working cooperatively with parents (parents as partners)

working knowledgeably and cooperatively as a multidisciplinary team member

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providing appropriate assessment (and reassessment) of both the family and child

providing appropriate intervention - including monitoring the progress of the family and child

providing families with information about, and assistance in, the process of transition from early childhood programs to school

The population addressed in this paper refers to those children who either are born with a hearing impairment or acquire one soon after birth. Approximately 90 to 92% of these infants are born to hearing parents who neither are unfamiliar with hearing loss nor expect their infant to have one. Often the diagnosis of the hearing loss occurs long after the parents suspect that their child has a "problem" (Thompson & Thompson, in press). The parents are then faced with the dual difficulties of the infant's hearing loss and their own lack of background or knowledge to handle this problem.

Needs of Deaf Infants and Their Families

The most pervasive, debilitating outcome of hearing impairment is severe language delay. This delay initially interferes with communication that normally develops between infant and parent(s) and later interferes with academic achievement and social development. Lack of appropriate responsiveness by the infant and communication can, in the worst

circumstances, lead to child maltreatment or rejection which can in turn lead to foster placement. In Seattle, Washington, two community groups have identified these severe problems and taken a special interest in families of hearing impaired children.

Hearing families of deaf infants are vulnerable to several sources of stress not common to parents of children with other handicapping conditions: (1) because of the delayed diagnosis, they must face the loss of the child they thought was "normal," and the adjustment to a "new" child who is impaired; (2) they may be struck by feelings of guilt for not having pursued the identification of the loss and therefore not finding out sooner; and (3) they may have to learn a new way of communicating -- sign language -- which alone can place significant emotional demands on parents (Swisher & Thompson, 1985).

The management system, therefore, must address the multiple needs of both the hearing-impaired infant and the family; thus it must not only be interdisciplinary but also provide an educational program for parents and siblings as well as the hearing-impaired infant. In keeping with P.L. 99-457, the entire family must be involved in the management process.

One example of such a management system is the Early Childhood Home Instruction Program for Hearing-Impaired Infants and Their Families (ECHI), now in its seventeenth year of operation.

ECHI, an early intervention program, serves hearing-impaired children from birth to three and their families; families reside in western Washington. Two main principles guide the program:

> The best teaching of children with hearing impairments is provided in the home, by parents and/or other caregivers.
>
> The use of total communication, including signing, hearing aids, auditory training, and speech production, is the best approach for these very young children.

The program coordinator meets with each prospective family, describes the program, and enrolls families that want to participate. Parents then use a curriculum especially designed for them by project staff, with all instruction taking place in the home. Weekly home visits are made by parent trainers who work with the families. Weekly objectives (see below) are established for each family. For families in the greater Seattle area, children's play group activities, and counseling (when needed), and a sign class for parents are provided two to three days a week at the University of Washington.

ASSESSMENT: Initial and Ongoing

Assessment is the first part of the management process and must include information about both the family and the hearing-impaired infant. According to P.L. 99-457, assessment must be accomplished by a multidisciplinary team. Currently each state which intends to participate in the 99-457 process is deciding how

best to implement its plans, although it is not yet clear what the various structures will be within each state or how the multidisciplinary teams will be formed. It is still critical, however, to obtain sufficient information so that you can address the needs of the "whole" child as well as the family. One way to accomplish this, of course, is to gather information from professionals in a variety of disciplines who use assessment tools that will provide you with the broad-based information you need about each child. It is important to recognize that standardized tests are not available for the infant hearing-impaired population and, even if they were, the results might not be as valid as longitudinal data collected on an individual child through a variety of developmental tools. Even when you are able to obtain information from other disciplines, it is still helpful to have your own tools and procedures for ongoing monitoring within your own program.

In ECHI, we use four measures:

The Rockford Infant Development Scales

The SKI-HI Language Development Scales

A Cognitive Checklist

Weekly Home Visit Report

The first three are used when the child enters the program, once per year while the child is in the program, and just before

the child leaves the program. The home visit report is used weekly to monitor progress.

General Development

In order to obtain information about gross motor, fine motor, personal-social, and self-help skills, we use the Rockford Infant Developmental Scales (RIDES). RIDES is a checklist of more than three hundred developmentally significant behaviors from birth to four years of age that informally assesses developmental functions. The checklist of behaviors represent the most commonly cited descriptors of normal development found in the professional literature. RIDES is a product of Project RHISE and was field tested by personnel from the Bureau of Education for the Handicapped (currently the Department of Education). The resultant scales provide those assessing a child with advantages not available previously such as; 1) skills at three-month intervals; 2) more items within each skill and age level; and 3) a zero to three scoring choice which enables the observer/tester to identify emerging skills as well as those nonexistent or fully achieved. If a hearing-impaired child has no other problems than the hearing loss, results of the RIDES should be consistent with tests of normally developing children who have hearing. If one or more skill areas are below expectations, it suggests existing problems beyond the hearing loss and other disciplines must be

involved. A partial example of a RIDES recording form is found in Figure 1.

Figure 1

ROCKFORD INFANT DEVELOPMENTAL EVALUATION SCALES (RIDES)

	9 - 12 MONTHS	Obs. No. _____ Date _____	_____ _____
Personal-Social/ Self-Help	24-finger feeds.....	0 1 2 3	0 1 2 3
	25-drinks from cup held for him.....	0 1 2 3	0 1 2 3
	26-eats semi-solid foods.....	0 1 2 3	0 1 2 3
	27-holds out toy, will not let go.....	0 1 2 3	0 1 2 3
	28-moves toys from one place to another to play.....	0 1 2 3	0 1 2 3
	29-repeats action laughed at.....	0 1 2 3	0 1 2 3
	30-plays ball with examiner.....	0 1 2 3	0 1 2 3
Fine Motor/ Adaptive	29-picks up cup, secures cube underneath.....	0 1 2 3	0 1 2 3
	30-flings objects.....	0 1 2 3	0 1 2 3
	31-imitates stirring with spoon.....	0 1 2 3	0 1 2 3
	32-removes objects from cup.....	0 1 2 3	0 1 2 3
	33-removes lid from box.....	0 1 2 3	0 1 2 3
	34-neat pincer grasp.....	0 1 2 3	0 1 2 3
	35-pushes toy along.....	0 1 2 3	0 1 2 3
	36-drops object with purposeful release.....	0 1 2 3	0 1 2 3
Gross Motor	37-supported standing, deliberate stepping movements.....	0 1 2 3	0 1 2 3
	38-stands momentarily with help.....	0 1 2 3	0 1 2 3
	39-on stomach, organized progression..	0 1 2 3	0 1 2 3
	40-cruises sideways, holding on.....	0 1 2 3	0 1 2 3
	41-on stomach, integrated progression.	0 1 2 3	0 1 2 3
	42-maintains standing position unsupported.....	0 1 2 3	0 1 2 3

ROCKFORD INFANT DEVELOPMENTAL EVALUATION SCALES (RIDES)

	15 - 18 MONTHS	Obs. No. _____ Date _____	_____ _____
Personal-Social/ Self-Help	39-chews well.....	0 1 2 3	0 1 2 3
	40-imitative play.....	0 1 2 3	0 1 2 3
	41-uses spoon, spilling little.....	0 1 2 3	0 1 2 3
	42-hugs and loves doll or stuffed toy.	0 1 2 3	0 1 2 3
	43-removes simple garment.....	0 1 2 3	0 1 2 3
	44-shows and offers toys spontaneously.....	0 1 2 3	0 1 2 3
	45-bottle discarded.....	0 1 2 3	0 1 2 3
	46-indicates wet pants.....	0 1 2 3	0 1 2 3
	47-when fed, leaves dish on tray.....	0 1 2 3	0 1 2 3
	48-explores environment.....	0 1 2 3	0 1 2 3
Fine Motor/ Adaptive	43-removes and replaces round object in formboard.....	0 1 2 3	0 1 2 3
	44-builds tower of 2 cubes.....	0 1 2 3	0 1 2 3
	45-unwraps toy.....	0 1 2 3	0 1 2 3
	46-inserts raisin into bottle.....	0 1 2 3	0 1 2 3
	47-removes raisin from bottle.....	0 1 2 3	0 1 2 3
	48-places 6 pegs in pegboard.....	0 1 2 3	0 1 2 3
	49-builds tower of 4 cubes.....	0 1 2 3	0 1 2 3
Gross Motor	49-runs stiffly.....	0 1 2 3	0 1 2 3
	50-walks sideways alone.....	0 1 2 3	0 1 2 3
	51-climbs.....	0 1 2 3	0 1 2 3
	52-walks down stairs with help.....	0 1 2 3	0 1 2 3
	53-stands on one foot with help.....	0 1 2 3	0 1 2 3
	54-walks up stairs holding onto rail..	0 1 2 3	0 1 2 3
	55-gets in and out of child-sized chair.....	0 1 2 3	0 1 2 3
	56-heel-toe progression in walking....	0 1 2 3	0 1 2 3

Language

In order to obtain in depth and longitudinal information about language development, we currently use the SKI-HI Language Development Scale (LDS) which was developed in Utah for use with hearing-impaired infants and young children. This scale was developed using 19 other developmental scales, many of which were norm referenced and demonstrated reliability and validity. Unlike many assessment tools for normal hearing children, the LDS does not emphasize auditory items. Expressively, children are given credit for sign, vocal, and verbal responses. Children are also given credit for comprehension of signed input. The LDS covers an age range of birth to 5 years with the language skills listed in 2 month intervals for birth to 2 years; 4 month intervals for 2 to 4 year olds; and 6 month intervals for the 5 year olds. We have found it to be very useful, easy to use, and understood by parents (see Figure 2 for an example of the LDS).

Figure 2

Unit 14

SKI*HI Language Developmental Scale

Project SKI*HI, 1979

28-32 months

Receptive

___1. understands many action words (verbs) signed or spoken (example: jump, swing, eat, hit, play)
___2. understands common words that describe (such as cold, sleepy, hungry) spoken or signed.
___3. understands many long sentences that have more than one idea (spoken or signed)
___4. understands size differences (big, little, etc.) when said or signed
___5. begins to take turns and shares (such as your turn, mommy's turn)
___6. often matches objects by their colors
___7. recognizes smaller parts of the body (chin, elbow, eyebrow, etc.) when names (signed)
___8. identifies a few objects by their use (such as "Show me what Mom cooks on," "Show me what you wear on your feet") when asked verbally or in sign

Expressive

___1. vocabulary of at least 500-600 words (signs)
___2. regularly uses (signs) noun-verb combinations (combinations of the name of a person, place or thing and an action word) (example: "Mama come," "I go," "Kitty sleep")
___3. describes use of common objects verbally or in sign; (may not know exact name of object but calls its name by use) example: describes coffee as "drink" or pen as "write"
___4. announces intentions (what he is going to do) in words or signs (example: I go bye-bye)
___5. begins to talk about experiences that have happened in words or signs
___6. enjoys describing drawing (scribbles in words or signs)
___7. gives full name when asked (word or sign)
___8. comments on what he is doing while he is doing it, verbally or sign, without being asked
___9. answers what or where questions (example: "What do you want?" "Where is your doll?" (verbal or sign))
___10. repeats nursery rhymes, finger plays or jingles using words or signs
___11. imitates two to three numbers (said signed) in correct counting order
___12. uses affectionate terms (such as I love you) spoken or signed
___13. uses "a" and "the" correctly spoken or signed
___14. uses past tenses (often incorrectly -- such as "I felled") (said or signed)

Cognitive Development

One other facet of the hearing-impaired infant/toddler's abilities needs to be evaluated and that is cognitive development. Preferably, programs should obtain this information from a developmental psychologist who has some knowledge about hearing impairment and hearing-impaired young children. Since this is not often the case, it is best to include an assessment tool in your own battery. A very complete analysis can be obtained by using Assessment in Infancy by Uzgiris and Hunt (1975). In ECHI we use an abbreviated approach and have developed our own cognitive skills checklist which evaluates Piagetian-type behaviors from 7 through 26 months and adds to our overall knowledge about each child. (The complete checklist is found in Appendix A.) A cautionary note: often the mental scale of the Bayley Test of Infant Development is used throughout the United States to assess cognitive functioning of birth-to-3 infants. It is important to consider that at least 31 items on the mental scale are auditory, 20 are vocal/verbal, and, if included in the total score, can make a perfectly normal hearing-impaired infant appear to be mentally retarded. If anyone working with a family of a hearing-impaired infant received results of the Bayley with reference to the infant's cognitive ability, these results and how they were obtained should be carefully reviewed. Certainly, additional

testing should occur in order to check the validity of any such test results.

Audition

Although procedures for testing the hearing of normal infants are now available and reliable (Wilson & Thompson, 1984), the same cannot be said for infants who are born with a significant hearing loss or acquire it shortly after birth. It is very important for those involved in management programs to realize that initial auditory test results are not necessarily indicative of later test results. Following a consistent program of auditory training using appropriate amplification, test results may be quite different. Therefore, it is important not to place a label on the child when he/she is initially non-responsive to sound. Normal infants respond to sounds because from birth they are inundated with a variety of sounds that gradually become meaningful to them. Deaf infants do not receive the same input; sound is either not present, or too soft, or distorted. Initially, therefore, sound is not meaningful to many of these infants and they must be taught what normal hearing infants already "know." Often it is a long process and parents very often become discouraged; however, the importance of the initial stages of training cannot be overemphasized. We work consistently on the initial stages of auditory training so that the family's audiologist can obtain better test results in a test situation. Often the training will

continue for a long period of time before reliable results are obtained.

Weekly Monitoring

The weekly home visit report is a very important part of the ECHI program. As seen in Figure 3, we are able to keep track of the number of visits a family has while they are in the program, what objectives have been established and completed, as well as information about new language, speech, hearing aids, communication, and how the family is doing. We have found that it is crucial not only to write the objectives, but also the reason for each objective ahead of time. This forces parent trainers to think about why they are going to ask parents to carry out a new idea and activity during the following week. When parents understand why they are performing certain activities, they are much more likely to pursue these activities on a regular basis.

Figure 3

Cognitive Skills Checklist

Stage	Concept	Criterion Behavior/Activities	Yes	No	Emerging
7-12 months	Means to an End/ Causality	Once an activity has begun, the child will attempt to have it repeated. 1. Adult places a rocking object on the floor in front of the child. Starts it rocking. Child will attempt to hit it to get it rocking again. 2. Adult hangs a moving object from the crib or high chair, bats it to start it moving. Child will attempt to swat it to start it again. Child can remove barriers in order to get something he wants. 1. Adult places an object in front of child; as child reaches for object, adult places a transparent screen in front of the object. Child will remove screen in order to obtain object. Child perceives others as cause of activity, whereas before he was aware mainly of himself as the cause. 1. Adult demonstrates how a toy works, e.g., winding it up to make it move, then allowing it to stop. Child will touch the object or adult's hand or give adult the object, indicating desire to have it wound again.			
7-12 months	Object Permanency (visual pursuit is included in object permanency at this level)	Child visually tracks object and knows it is still available even though out of sight. Can reach and coordinate second scheme of removing barrier in order to identify location of object.			

Stage	Concept	Criterion Behavior/Activities	Yes	No	Emerging
		1. Adult shows child object, hides it behind a screen, under a cup or box, etc. Child removes obstacle and gets object.			
		2. Adult shows child object, hides it first under one obstacle, removes it, and shows child that he is placing it under a second obstacle. Child will remove the second obstacle and get the object.			
		3. Adult shows child the object hidden under the first and second obstacles; adult secretly removes the object from under the second obstacle. Child will look under the last obstacle where he saw the object placed.			
		4. Adult, using an object the child likes, pushes it off the table or chair while the child is watching. Child will look to see where the object fell.			
7-12 months	Time	Child has beginning awareness of objects related to his daily schedule. 1. Adult gets child's coat. Child moves to the door, indicating "time to go out." 2. Adult gets child's eating utensils. Child goes to his or her chair to eat.			
7-12 months	Imitation	Child now imitates adult's actions using movements within his repertoire. He or she may only approximate adult's movements. 1. Adult bangs blocks together or claps hands. Child imitates, perhaps imperfectly.			

Stage	Concept	Criterion Behavior/Activities	Yes	No	Emerging
		2. Adult bangs spoon on cup. Child attempts to imitate.			
7-12 months	Spatial Relationships	Child can differentiate between "space" and "object." Can account for the reverse side of things; e.g., turns bottle to get to the nipple. Will look under and behind new objects. 1. Adult drops object (on floor, under table). Child will lean forward and search. 2. Adult turns object upside down. Child will turn object right side up. 3. Adult presents container with different objects. Child will try to put objects into container.			
7-12 months	Play	Child engages in nondirective "play." Manipulates any object within reach. Throws, bangs, shakes it, puts it in her mouth. Derives most pleasure from the actual movement (e.g., shaking). 1. Adult places several toys close to child, observes and records child's behavior. Child demonstrates any of the behaviors noted above.			
12-18 months	Spatial Relationships	Child attempts to discover relationship among objects and the effect that location and position have on the action of the object. 1. Adult observes child while playing with toy; e.g., "timer" with sand in it. Child will turn it upside down, shake it, maybe try to get sand out. 2. Adult places several small objects in a cup or other container; first removes objects singly, then "en masse."			

Stage	Concept	Criterion Behavior/Activities	Yes	No	Emerging
		LEVEL I: Child places and releases in the container at least two objects singly and takes them out singly. LEVEL II: Child places and releases in the container at least two objects singly, then removes them by upending container. 3. Adult demonstrates removing rings from a stick--first one at a time, then "en masse." LEVEL III: Child will upend stack of rings and remove them "en masse."			
12-18 months	Object Permanency	Child attempts to track, visually, movement of object. Knows object is present though hidden. Will systematically continue to remove barriers until goal of finding object is achieved. 1. Adult pretends to hide object under first and second "screen" (box, cup, etc.), then leaves it under third "screen." Child will either look under the last "screen" or will look sequentially under first, second, and third "screens" until she finds object.			
12-18 months	Means to an End/ Causality	Uses some form of intentional motor behavior to obtain object he/she desires. 1. Adult places an object on a cloth (e.g., napkin, diaper, etc.) Child will pull cloth in order to get object. 2. Adult puts toys on string, places string in front of child. Child will pull string to get the toy. Child is beginning to discover system of relationship--cause and effect. 1. Adult shows child how to operate new toy.			

Stage	Concept	Criterion Behavior/Activities	Yes	No	Emerging
		Child will let activity continue until completed, then attempt to activate toy. (May not succeed.) 2. Adult repeats the activity, looks for: Child to imitate adult movements or Child to get toy back to adult to activate it.			
12-18 months	Imitation	Child can respond to unfamiliar motor schemes as long as he can see his body do them. He is beginning to approximate imitations of actions he can't see his body perform. 1. Adult demonstrates unfamiliar motor activity that child can see himself perform. (Trainer asks parent for suggested activity.) Child will attempt imitation. 2. Adult makes unfamiliar vocalizations (if appropriate for this child). Child will attempt imitation.			
12-18 months	Play	Child will use toys unconventionally and occasionally more conventionally. For instance, will hit one toy with another instead of using the toy as it was designed to be used. Then will use toys more conventionally. 1. Adult places two large blocks close to child, observes and records child's behavior. Child might hit one block with the other. 2. Adult observes child's response to toys that have specific functions. For instance: Child runs truck on floor, or puts rings on a stick, etc. 3. Adult gives child car or truck, or rings to place on a stick, or geometric shapes to place in appropriate holes in a box, or large pegs to put in a hole.			

Stage	Concept	Criterion Behavior/Activities	Yes	No	Emerging
		Child play appropriately with car or truck, puts rings on stick, places shapes in appropriate holes in box, or places large pegs in hole.			
		4. Adult places hairbrush and doll close to child.			
		Child will use the brush--sometimes brushing hair, sometimes shoe and sock or pants.			
18-24 months	Spatial Relationships	Child can motor plan, in space, and can detour to get what he wants.			
		1. Adult removes from the child an object that he wants and places it in the room; places boxes, furniture, etc., between child and object.			
		Child will walk (crawl) around obstacles to get the visible object.			
		2. Adult places four nesting cups on the floor singly.			
		Child will place the cups correctly without adult demonstration.			
		LEVEL I: Child places same cup inside another on three occasions.			
		LEVEL II: Child nests a series of four cups; makes three correct insertions.			
18-24 months	Object Permanency	Child remembers presence of object after a period of time and will search for it. (Trainer may have to get this information from parent.)			
		1. Adult hides something at beginning of session; at end of session gives some hint about object.			
		Child will hunt for and (maybe) find hidden object at end of session.			
18-24 months	Means to an End/ Causality	Child uses an object within reach in order to obtain an object she wants or in order to eliminate an object present.			

Stage	Concept	Criterion Behavior/Activities	Yes	No	Emerging
		1. Adult places an object out of reach. Child will pull stool, etc., to climb on in order to reach object.			
		2. Adult places string of beads and container in front of child. Child will stuff beads in, or dangle them until they drop in. (Child should not put them in one at a time.)			
		Child will attempt to discover the cause of an action; knows the cause and effect of numerous daily events.			
		1. Adult sets mechanical toy in action (by switching it on, winding, etc.) without child seeing this happen. Child examines toy to see how to make it go. Will find switch, key, etc. and demonstrate knowledge, but may not be able to make it function.			
		2. Adult observes child in daily routine, notes: Child will turn light switch on to have light, will turn TV switch on to have TV, etc.			
18-24 months	Imitation	Child can imitate motor behaviors he cannot see himself doing. Can imitate a complex series of actions. Imitates new models without trial and error procedures. (Imitates new words, animal sounds, etc.)			
		1. Adult pats her cheek, blinks her eyes. Child imitates specific action.			
		2. Adult moves one object to three places and asks child to imitate. Child imitates with no problem.			
		3. Adult shows pictures of or uses toy animals familiar to child; adult makes animal sound.			

Stage	Concept	Criterion Behavior/Activities	Yes	No	Emerging
		Child will attempt imitation--it may be only an approximation.			
18-24 months	Time	NOTE: This concept is more abstract than many of the others. Adults should have consistent discussions about time with the child, adding concrete elements such as calendars and pictures of activities when possible. Child anticipates coming events, e.g., knows that after lunch he can play outside with another child, or that after his nap, he will go in the car with mother, etc. Child can remember past events, not specific time of events; e.g., remembers going to the store or visiting a friend, etc. 1. Adult keeps a calendar as in Figure 9. This will help the child begin to learn time concepts. Adult points to pictures of past or future activities and requests feedback from the child. Child. As child begins to understand the concept of time, he will respond appropriately, indicating memory or anticipation of events. 2. Adult. Using photographs of visits to friends' houses, the zoo, or of activities around the house (making cookies, pouring juice, playing in the yard, etc.), adult requests feedback from the child. Child. As child begins to understand the concept of time, she will respond appropriately, indicating memory or anticipation of events.			
19-26 months	Play	Child uses play objects appropriately: e.g., brushes only hair with hairbrush. Symbolic play beings; child uses a carton as a bed or car. Child begins to put toys into groups or categories; e.g., will put cars and trucks together, all blocks together, etc.			

Stage	Concept	Criterion Behavior/Activities	Yes	No	Emerging
		1. Adult places doll, blanket, and a box in front of child. Child should attempt to fix bed for doll. 2. Adult pretends with play or real dishes, puts dishes and spoon or fork in front of child. Child pretends to eat food, pour water, etc. 3. Adult places an assortment of different kinds of toys near child. Child may begin to group toys into categories. This behavior may not occur spontaneously. A request may have to be made first. NOTE: Children must be provided with the appropriate toys and shown these activities over a period of time before this age for this kind of play to occur.			
26 months +	Play	"Make Believe" is dominant. For instance, child will wash and feed doll, put doll to bed. Child will pretend that an absent person such as Daddy is present. 1. Adult: Have dolls, dishes, etc., available. Encourage child to "take care" of the baby, etc. Parent(s) and trainer observe child playing with doll, record behaviors or comments. Trainers may ask parents to keep records about occurrences during the week.			

Family Needs Assessment

P.L. 99-457 states that the assessment process must also include the rest of the child's family and must review needs in a variety of areas such as: information the family requests, support, finances, community services, and so forth. We have developed a tool that we use which can be found in Figure 4. We have labeled it a survey rather than an assessment because many families prefer this approach. Although it covers six areas of "need," it is relatively short to better respond to most parents' desires not to be involved in too much paper work. Once the survey was developed, it was given to several parents for review. Their suggestions were very much on target and helped us develop a tool that appears to be acceptable and helpful to us all. This is a good example of the usefulness of parent input. Originally, each item started with the statement, "I need," and as one mother put it, by the time she was finished, she felt like a totally inadequate person. Eliminating the "I need" for each statement and inserting "I would like" once, at the very beginning, made a major positive change in the survey. A review of the survey and its contents will also provide a clear understanding about the need for many disciplines (such as social work) to be involved, as well as many community services that might be able to assist families with finances, counseling, and medical and respite care.

Figure 4

EARLY CHILDHOOD HOME INSTRUCTION PROGRAM
WEEKLY HOME VISIT REPORT

CHILD:_____ P.T.:_____ VISIT#_____ DATE:_____

LESSON PLAN

OBJECTIVE #1	REASON FOR OBJECTIVE	PROCEDURES
OBJECTIVE #2	REASON FOR OBJECTIVE	PROCEDURES

NEW SIGN VOCAB. PARENT LEARNING

CHILD EXPRESS. VOCAB.
(INDICATE CONTEXT FOR WORD COMBINATIONS)

I. HEARING AIDS

FUNCTIONAL: _____Y _____N

TIME WORN PER DAY:_____

PROBLEMS:_____

ACTION TAKEN:

II. AUDITORY DEVELOPMENT

PARENT REPORT:

OBSERVED:

III. VOCALIZATIONS/INTONATIONS

PARENT REPORT:

OBSERVED:

IV. COMMUNICATION/LANGUAGE/COGNITION

PARENT REPORT:

OBSERVED:

WEEKLY REPORT

PLEASE USE THIS SECTION TO SUMMARIZE YOUR VISIT. INCLUDE: OVERALL CLIMATE, WHO WAS PRESENT, HOW THE PARENTS AND CHILD DID WITH PREVIOUS WEEK'S ASSIGNMENTS, A BRIEF DESCRIPTION OF OBJECTIVES AND ACTIVITIES, AND CONCERNS OR QUESTIONS RAISED BY PARENTS. LENGTH OF VISIT:_____.

ARE THERE ANY ONGOING CONCERNS OR QUESTIONS REGARDING THIS FAMILY? (PLEASE STATE IF CONCERNS ARE ONGOING OR ARE RAISED DURING THIS VISIT. INDICATE IF YOU WOULD LIKE ASSISTANCE FROM COORDINATOR OR ANY OTHER PERSON.)

P.L. 99-457 states that the family needs assessment must be completed as soon as the family is identified and enrolled in a program. However, I do not believe that such precipitous action is necessary or advisable. Parents of a newly identified hearing-impaired infant/toddler are often in a state of shock and have not yet sorted things out in their own minds, so they may not yet be able to identify and prioritize what they need or want. Some parents have been treated poorly by professionals and they are not initially ready to trust new ones. It is advisable to allow parents to have some time to rebound, to identify what their top priorities are, and to develop trust with the person who will be helping them complete the needs survey. By allowing some time to pass, we help parents to be far more at ease, and they will be able to provide more accurate information.

INTERVENTION

Programs

The second part of management is intervention. There are basically three types of intervention programs: 1) home-based, 2) center-based, and 3) a combination of home- and center-based.

Home-based. There are numerous reasons for developing and using a home-based intervention program for very young hearing-impaired children. They belong to a very low-incidence population; therefore, there are often not enough children within

a geographic area to develop a center-based program. This is especially true in rural areas. Often the only center-based programs available serve delayed or retarded children, which are not appropriate placements for a normally developing hearing-impaired child. Families sometimes have only one car and that is used for business, so there is no transportation available to travel to a center; sometimes there are insufficient funds for gas. In many families, there are siblings who have their own needs -- such as leaving for or coming home from school or needing a nap -- and meeting center-based schedules is not possible. The home-based approach alleviates these problems. At the same time, it allows visits at times that are convenient to the entire family so that the father and siblings can be involved in the learning process. The home is a very natural environment for the child and the materials used in teaching are those the child uses everyday. Thus the family can learn to use the ordinary things and events in their home for auditory and language training. This encourages continuity of work on program objectives on a daily basis. A home-based program provides visits on a regular, year-round basis, and visits can occur with the parents even if the child is not feeling well. If the child is cared for by others on a regular basis, visits can also be made to these other caregivers so that they can learn as much as possible about hearing aids, auditory training, and language and provide some assistance to the child.

Center-based. Despite the transportation and other problems noted above, the positive aspects of center-based programs are many. Parents can meet other parents and become involved in sign classes and support groups which can contribute significantly to their emotional health. The young children see and play with other hearing-impaired children, and see them wearing hearing aids and using communication and language. In our program, hearing siblings also participate. This not only provides good models for the hearing-impaired children, but also offers the hearing sibling an opportunity to participate in exciting activities and feel more a part of the family, which may be dwelling on the hearing-impaired child's needs to the exclusion of the sibling's. This is very important for siblings who often feel that they are "left out." A play group also provides an excellent, natural learning environment for language and cognitive growth since new, creative experiences can be provided, such as water play, painting, and other "messy" activities that may not be welcome in all homes. Walks to find leaves or trips to the zoo and other favorite places can also provide further enriching experiences.

Home- and Center-based. I believe the third option, the combination of a home- and center-based program, offers the best opportunities to families and their hearing-impaired children, but the addition of the center-based program is not always possible. For example, in our program (ECHI), because we usually serve over

40 families annually all over western Washington, and most families are geographically scattered, we are able to offer an adjunct center-based program only for those families who live in the greater Seattle area or are willing to travel large distances. Therefore, all goals and objectives for individual families and children are developed between the family and the home visitor and worked on in the home. The play group offers additional, enriching experiences focused on developing specific concepts and language to support the concepts. The variety of activities provides an appropriate learning environment for both hearing-impaired children and their siblings.

No matter which type of program you select, it is critical 1) to have a curriculum that parents and educators can use together as a guide, and 2) to involve the family as much as possible.

Families

P.L. 99-457 states that each family served must be included in the development of an Individual Family Service Plan (IFSP) (see Figure 5). The plan is developed after assessment of both the child and family, and includes both results of the assessment as well as a description of services to be provided immediately. Dates are recorded for review of objectives and services so that changes can be made as needed. P.L. 99-457 emphasizes the need for constant monitoring of both the child and family because families are dynamic and, therefore, services need to change as

the family's needs change. Reassessment is supposed to occur every 6 months.

Obviously, because the family assessment is multi-faceted, the services provided to the family will need to come from many different sources. For example, a social worker may need to be involved in order to identify community services available to the family and assist the family in obtaining them; an occupational or physical therapist may be needed to provide ongoing therapy to the child; or the child may need to attend a DD center to receive therapy services. It is imperative, therefore, that all of these professionals keep in touch with each other so that the family does not feel pulled in different directions because it is not receiving the same information from the different professionals involved. When at all possible, it is best for the family members and the professionals involved with them to meet together and discuss what is happening. If there are problems, this "case conference" is a good place to air differences and attempt to reach resolution.

Figure 5

Date:___/___/___ Child's Name:_____

Respondent's name and relationship to child_____

A Survey of Family Needs

		I definitely do not need help with this	Not Sure	I definitely need help with this
A.	Informational Needs, I would like:			
1.	Information about hearing impairment and hearing loss.	1	2	3
2.	Information about how to handle my child's behavior.	1	2	3
3.	Information on how to play and communicate with my child.	1	2	3
4.	Information on the services that are presently available for my child.	1	2	3
5.	Information about how children grow and develop.	1	2	3
B.	Support Needs, I would like:			
1.	Someone in my family that I can talk to about problems.	1	2	3
2.	More friends that I can talk to.	1	2	3
3.	Opportunities to meet and talk with other parents of handicapped children.	1	2	3
4.	To meet regularly with a counselor (psychologist, social workers, psychiatrist).	1	2	3
5.	Reading materials about other children similar to mine.	1	2	3
6.	More time for myself.	1	2	3

		I definitely do not need help with this	Not Sure	I definitely need help with this
C.	Explaining to Others, I would like:			
1.	Help in how to explain my child's hearing loss to his/her sibling.	1	2	3
2.	Help in explaining my child's hearing loss to either my parents or my spouse's parents.	1	2	3
3.	My spouse would benefit from help in understanding and accepting our child's condition.	1	2	3
4.	Help in knowing how to respond when friends, neighbors, or strangers ask questions about my child's hearing loss.	1	2	3
5.	Help in explaining my child's hearing loss to other children.	1	2	3
D.	Community Services, I would like:			
1.	Help locating a doctor who understands me and my child's needs.	1	2	3
2.	Help locating babysitters or respite care providers who understand hearing loss and can communicate with my child.	1	2	3
3.	Help locating a day care center for my child.	1	2	3
E.	Financial Needs, I would like:			
1.	Help in paying for expenses such as food, housing, medical care, clothing, or transportation.	1	2	3
2.	Help in getting special equipment for my child's needs.	1	2	3
3.	Help in paying for other services my child needs.	1	2	3
4.	Help paying for babysitting or respite care.	1	2	3

		I definitely do not need help with this	Not Sure	I definitely need help with this
5.	Help paying for toys that my child needs.	1	2	3
6.	Counseling or help in getting a job for my spouse or myself.	1	2	3
F.	Family Functioning, I would like:			
1.	Help in discussing problems and reaching solutions.	1	2	3
2.	Help in learning how to support each other during difficult times.	1	2	3
3.	Help in deciding who will do household chores, child care, and other family tasks.	1	2	3
4.	Help in deciding on and doing recreational activities.	1	2	3
5.	Help in addressing siblings needs.	1	2	3

Additional Comments

Curriculum

Most hearing parents of newly identified hearing-impaired children need information -- all kinds of information. A curriculum, written in language parents can understand, can provide both information about the auditory system and hearing loss and guidelines for working naturally with their child in such areas as language, auditory training, and speech. The curriculum we use is one several of us wrote. It includes basic information, is very easy to follow, and provides a nice beginning for developing a partnership between the parents and the parent trainer. Each parent and parent trainer has a copy and therefore can read and discuss information together and develop shared experiences.

The table of contents from the revised curriculum (Figure 6) is illustrative of the many areas of content and activities that need to be provided to assist the parents.

Figure 6

Marie Thompson, Ph.D.
Director
University of Washington
November, 1989

EARLY CHILDHOOD HOME INSTRUCTION PROGRAM FOR
HEARING IMPAIRED INFANTS AND THEIR FAMILIES

Individualized Family Service Plan (IFSP)

Child:_____ Parent/Caregivers_____

Birthdate:_____

Coordinator:_____ Case Manager:_____

Date of IFSP Meeting:_____ Projected Review Date:_____

CHILD

Description of Services	Schedule	Date Service Initiated	Anticipated Duration

FAMILY

Description of Services	Schedule	Date Service Initiated	Anticipated Duration

Figure 6 (Con't.)

CHILD'S PRESENT LEVEL OF FUNCTIONING (ECHI):

Date of Evaluation:_____

RIDES:

Social:	Fine Motor:	Gross Motor:
_____	_____	_____

SKI HI LDS:

Receptive:	Expressive:
_____	_____

COGNITIVE CHECKLIST:_____

CHILD'S PRESENT LEVEL OF FUNCTIONING (OTHER PROFESSIONALS):

Auditory (awareness, localization, etc.)

	Level	Date	By Whom
	_____	_____	_____

Cognition

Test(s)	Level	Date	By Whom
_____	_____	_____	_____

Gross/Fine Motor

Test(s)	Level	Date	By Whom
_____	_____	_____	_____

Other (Health, Nutrition, etc.)

_____

_____

_____

Figure 6 (Con't)

FAMILY:_____

Initial Goals and Objectives	Date Initiated	Projected Timeline	Date Completed

REASSESSMENT:

New Goals and Objectives	Date Initiated	Projected Timeline	Date Completed

Figure 6 (Con't)

COMMUNICATION/LANGUAGE/SPEECH:

Initial Goals and Objectives	Date Initiated	Projected Timeline	Date Completed

REASSESSMENT:

New Goals and Objectives	Date Initiated	Projected Timeline	Date Completed

Figure 6 (Con't)

AUDITORY TRAINING/HEARING AIDS:

Initial Goals and Objectives	Date Initiated	Projected Timeline	Date Completed

REASSESSMENT:

New Goals and Objectives	Date Initiated	Projected Timeline	Date Completed

OTHER TRAINING NEEDS: (specify, e.g., O.T., P.T., etc.)

Initial Goals and Objectives	Date Initiated	Projected Timeline	Date Completed

REASSESSMENT:

New Goals and Objectives	Date Initiated	Projected Timeline	Date Completed

Figure 6 (Con't)

Signatures

IFSP Committee Members:

Name	Signature	Position

My rights and responsibilities have been explained to me in a manner which I fully understand. I have had the opportunity to participate in the development of this Individualized Family Service Plan. I fully understand all programs and services listed above and give my permission for my child/ward to participate in these programs/services. I have been informed that the goals and objectives listed on this form are initial objectives and that the person(s) responsible for implementing the goals and objectives will revise and/or add goals and objectives in keeping with the child/family's progress toward the stated goal. I will continue to participate in the revision of this document.

Parent/Caregiver signature	Date

Modifications:

Parent/Caregiver signature	Date

Before we discuss specific activities and information, I would like to spend some time discussing the importance of the family in implementing the curriculum. Beyond the fact that the law says we must involve the family and provide the services they need, we, as professionals, must realize that it is really the family who contributes to the success or failure of the child. We as teachers or therapists, working directly with the child at home or in a play group, cannot take the place of the family that is knowledgeable and actively involved in providing their child with daily, ongoing learning experiences. Parents need to feel that they are a respected and integral part of their child's early education. The education that we provide, therefore, must be directed to and involve the parents; we cannot simply provide therapy for or "teach" the child. Moses (1985) discusses the importance of viewing the "whole" hearing-impaired child and not just his/her ears, and points out that "to separate parents from the child is as fallacious as to separate the child's ears from the rest of the child" (p. 83). Although it is critical for parents to be predominant in "teaching" communication, auditory, and other skills to their child and in understanding the hearing loss and the importance of hearing aids, this is not always possible because the parents may be experiencing problems adjusting to the hearing loss and may not be functioning well enough to "hear" what is being said or be able to act. Most of

the parents we work with believed that their newborn infant was a normal child. As the infant grew older, the parent(s) began to suspect a problem. Eventually, often after great delay, a hearing loss was identified. It is very difficult to adjust to this "new" and "different" child. Often parents grieve and, as Moses (1985) points out, it is a grieving process that does not have a well defined beginning and end. Rather, it can be expressed through a variety of feelings such as guilt, denial, depression, anger, and anxiety, and the strength of these feelings can increase and decrease constantly. A parent may experience several of these feelings at the same time and they may be different from feelings experienced by the significant others which only accelerates the severity of the problem. This means that professionals must be knowledgeable about the grieving process and recognize that, if the parent is terribly angry or depressed, he or she is not really able to "hear" what the professional is saying or to take the actions being suggested. During these periods, parents will need assistance directed toward their own needs and should not necessarily be expected to carry out assigned activities with their child.

Auditory Training

As I mentioned earlier, it is often difficult or impossible to obtain accurate audiological results when testing infants who were born with a hearing loss or have acquired one shortly after

birth, because sound has no meaning to them. For this reason, and because it is part of early development, it is important to teach awareness and localization to sound as soon as possible. We have found that this often takes a long period of time -- and patience -- sometimes 8 months go by before we can begin to obtain satisfactory behavioral responses to sound. In order to teach a young hearing-impaired child the skill of localizing to sound, we most often must encourage the child to look at and feel the object that is making the noise because it is critical to help the child know what is creating the sound and what we want him/her to do. The following steps will help:

a. Start by using a noisemaker that is relatively low pitch and loud--such as a drum. The following steps using a drum may be used with any noisemaker when a child is being taught the process of localizing to sound.

b. Place the drum (noisemaker) in front of the child and beat the drum--indicate that you hear the sound. Do this several times. Place the child's hands on the drum (if necessary) while you beat it, thus providing the child with tactile, auditory, and visual input.

c. Allow the child to beat the drum, while you repeat "I hear that!"

d. Have another adult play quietly with the child.

e. Move the drum away from midline, still within peripheral vision, and beat the drum.

   1. If the child looks toward the sound, reinforce with smiles, hugs, "good work," etc.

   2. If the child does not look, repeat the noise and tell the child to look and, if necessary, gently guide the child's head to the appropriate position. Or move the drum in front of the child again and repeat b and c.

f. Gradually move the drum or other noisemaker out of the child's vision until the child is responding to the auditory stimulus alone.

g. Repeat as many steps as necessary in order to teach localization to the other side.

Continue by alternating sides, using different noisemakers, and gradually increasing the distance between child and noisemaker. Remember that increasing distance decreases the loudness of the sound. Children with profound hearing losses may not be able to respond to sounds at a distance. Also, depending upon the degree of hearing loss at various frequencies, some noisemakers may not be heard by some children.

At the same time, start using your voice and calling the child's name. Remember, it is important to reinforce the

child's localizing response. Use puppets and make them move/dance, etc. if the child turns. Let the child play with the noisemaker, make funny faces, give treats (cereal, raisins)--whatever is necessary to get them to continue the localizing response.

Once the child has learned consistent responses, it is usually no problem to transfer these responses to the audiology booth using VRA procedures.

Hearing aids are a critical part of the auditory training process; parents need to learn how to put them on the child, take them off, and maintain them, and then eventually teach their children to assume these responsibilities. Although some professionals recommend that parents should keep hearing aids on the infants for as long a time as the infant will tolerate this, from the very beginning, we have not found this to be wise. When we have followed that advice, the children soon began to dislike their hearing aids and fuss or pull them out. What appears to work is to place the hearing aids on the child for very short periods initially, and then very gradually increase the amount of time the child wears them over the first few weeks until he/she eventually wears them full time. This process allows the child to gradually adjust to something new and also gives the adult complete control over when the aids are put on or taken off. We

provide all parents and parent trainers with battery and hearing aid testers and encourage them to check the hearing aid and batteries as part of the daily routine. The children are always encouraged to watch the process and, as soon as they are able, are shown how to check their batteries -- a basic part of auditory training.

Depending upon the age at which the child is identified, the amount and quality of residual hearing, and parent involvement, some young hearing-impaired children are able to perform fine discrimination tasks and learn to speak before they enter school at age three. Others may not be able to perform even gross discrimination tasks; there is a tremendous range in skill acquisition. A few examples of beginning auditory activities are found in Figure 7.

Figure 7

Birth to Three

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Communication

It is very important to help parents identify the communicative intentions of their young hearing-impaired children. It seems that many parents, even though they have had other children, may fail to respond to a hearing-impaired child's communicative attempts such as pointing or picking up and giving a toy. Perhaps it is because they are not always accompanied by vocalizations, or perhaps because the parents are concentrating too hard on eliciting language or speech. Whatever the reason, parents must receive assistance in recognizing and rewarding these attempts, accompanying this recognition with appropriate language, such as: "Oh, you want your bottle. Here it is." Reinforcing these early attempts encourages the continuation of communicative interaction and assists in building the child's self-esteem. Parents also need to know that what they communicate is important; frowns and smiles communicate different messages through facial expression. Hugs or slaps communicate different messages through physical contact. Obviously a young, newly identified hearing-impaired child will respond more to facial expression than the spoken language that accompanies it. Thus a parent who frowns while saying "I love you" is very likely transmitting a negative message to the child even though the verbal message is positive. Examples of information for parents and activities are found in Figure 8.

Figure 8

Some Suggested Activities for Promoting Awareness of Environmental Sounds

1. Activity: Soup time!

   Description: Put your child in his or her chair (highchair) while you prepare soup (or other food). Talk to the child about what you are doing. "Listen, I'm banging the can." (Bang the can on the counter.) Scrape the soup or other food out of the can--making lots of noise. Stir or beat the soup (food), being sure to make noise. Talk about the noise; for instance, "Listen, do you hear that? Bang, bang, I'm stirring the soup." Make sure the child sees what you are doing while he listens.

2. Activity: Knocking on Door (for child who is over a year old)

   Description: Ask another adult or older child to do this activity with you and your child. That person is on the other side of a door from you and knocks loudly. First, go through the steps of cueing: "Listen. I hear someone." Then go to the door. Ask: "Do you hear someone?" Then open the door. Repeat, "I hear someone." The person on the other side comes in, says "Hi," and hugs or otherwise reinforces the child. Do the whole activity once more. If the child desires, reverse the roles, letting your child knock on the door. Ask your friends always to knock loudly when they visit, then knock again, in order to give the child time to listen and respond and to give you time to provide cues.

3. Activity: Listening to a Noisy Dryer

   Description: Let your child feel the top of the clothes dryer when it is on. Stop the dryer and put a tennis shoe or other clunky object in. Listen. You can point out other "dryer sounds" to your child as appropriate, e.g., a garment with metal buttons clanking.

Language

It is widely recognized that children receive language input over a long period of time before expressing that language. Therefore, it is incumbent upon professionals to help parents develop understanding and patience concerning their expectations for the first words or signs expressed by their child. Parents need to be encouraged to continue using the normal conversational language they used before identification of the hearing loss or that they routinely use with their other children. Language for hearing-impaired infants, as for infants with normal hearing, should relate to objects and activities that are important to the child. Language surrounding such activities as changing diapers, preparing a bottle, fixing dinner, and taking a bath can be easy and enjoyable because it accompanies actions that occur as part of the regular household routine (see Figure 9).

Figure 9

Lesson II

Objective: Parents will become aware of the ways that their child is already communicating.

What to Do During the Home Visit

1. Go over Table 4 (List of Communications). Parents then tell the trainer which of those communication activities their child is already doing.

2. Parents tell the trainer what else their child does to communicate. The trainer should make a list of these communications.

3. Parents and the parent trainer play with the child (or have a snack, etc.) for approximately 10 minutes. While this is occurring, the trainer should comment aloud on what the child is communicating. Parents should comment also, as they begin to observe communications.

4. Together, parents and the trainer discuss and go over any questions, especially those that parents see as problem areas.

What Parents Do During the Following Week

1. Write down the ways you believe your child is communicating, and what that communication might mean. See Table 5 for an example of how to set up a form on which to record communication attempts.

2. Star those attempts that are most frequent.

3. Ask others in the family, including any siblings old enough to participate, to add to the list you are keeping.

4. Play with your child for 10 minutes and keep track of how many times your child tries to communicate with you. One way is to mark these on a piece of paper; another is to have someone else keep track on paper and you let that person know each time a communication attempt occurs.

At the same time we are providing critical language input, we are also "training" the auditory system. Because we do not know how much distortion is present within the auditory system in these young children, we cannot be sure how much language they are understanding. Therefore, we believe that it is necessary for parents to use total communication in order to help their child learn language (Thompson & Swisher, 1985). When we refer to total communication, we refer to using all means possible to communicate our needs, wants and feelings. This process is, in reality, the same as an oral approach but adds the use of sign. Total communication, therefore, must include:

- hearing aids
- lip reading
- auditory training
- speech production
  - with infants and toddlers - playing with and imitating sounds
  - encouraging vocalizations
  - providing good, consistent models
  - reinforcing the use of consistent sound patterns to represent an object or action
- verbal language
- and sign language (English)

Thus, hearing aids are always worn and are in good working condition, and auditory training is emphasized. Auditory training objectives and activities are an integral part of the program. Professionals and parents use verbal language accompanied by sign so that an appropriate model is always provided. Although learning sign is difficult for parents (Swisher & Thompson, 1985), if they will learn to use it consistently, accompanied by verbal language, their children will not be deprived of language while they are learning to use whatever residual hearing they have. It is important to understand that, although some professionals and parents believe that if a child learns sign, he/she will not learn speech, there are no data to support this belief (Lowenbraun & Thompson, 1987).

Parent Trainers

Key to the success of any early intervention program are those who provide the ongoing service to parents. In ECHI these people are called parent trainers. Most of the parent trainers have a master's degree in Speech/Language, Audiology, or Education of the Hearing Impaired. A few are parents who, with their hearing-impaired children, were formerly involved in our early intervention program. Because most university training programs that relate to hearing impairment do not train people to work with the birth-to-three population and families, almost all parent trainers need additional special training. Thus, an early

intervention program for young hearing-impaired children and their families must usually provide ongoing inservice training in such areas as: early childhood development, early speech and language, auditory training for infants and toddlers, family systems, the interdisciplinary process, and how to work with families in their homes. We have found that the typical one-day workshop is not sufficient. Rather, training is an ongoing process of reading, observing others, modeling, and attending six or seven day-long workshops with follow-up each year, as well as one-to-one supervision and training by the coordinator and supervisor on a continuing basis. Parent trainers must have, and continue to acquire, the latest information regarding content areas such as language development as well as changes in federal and state laws so that they can pass this information along to the parents. They also must know about the school districts where their families live so that they can help provide a smooth transition when the child leaves our program to enter school. Parent trainers play a critical part in the lives of these families. Their understanding of the problems the families encounter and their content knowledge are critical in helping the family be successful.

Counselor

Part of any systems design is knowing that professional boundaries exist and knowing what and where they are. This knowledge is an important part of intervention whether applied to

the child or the family. For example, if a speech/language professional diagnosed and provided intervention plans for a child's orthopedic problems, this would suggest that the professional did not recognize or respect professional boundaries. The same holds true for working with parents. Although the parent trainers are skilled in areas of auditory training, hearing aids, language, etc., they are usually not trained to respond to depression, feelings of guilt, marital disputes, and so forth; these latter go beyond the boundaries of their professional expertise, which should not be crossed. Because emotional issues are usually prevalent in hearing families of hearing-impaired children, it is essential to have, as an integral part of the program, a counselor who is trained to respond appropriately to these problems. In addition to responding to the emotional needs of the parents, the counselor can also provide counseling support to the parent trainers when they become frustrated or depressed. A counselor who is also knowledgeable about hearing impairment can provide support to the parent trainers as they try to help parents understand normal development and hearing impairment. For example, the counselor can reassure parents that 15 month-old hearing-impaired children who are inquisitive and "getting into everything" are inquisitive because they are just like other normal toddlers; this inquisitiveness is not caused by the hearing loss. A counselor is a valuable and necessary member of any early

intervention program for hearing-impaired children and their families.

Transitioning

Surprising as it may seem, the transitioning process must be a part of an early intervention program. Although most children enter a school program when they turn 3, there are some hearing-impaired children who at 2½ years need the consistent interaction with peers, and a more intensive education plan, and they are therefore ready for a daily school program. Whatever the child's age, this can be a very traumatic time -- mostly for the parents -- and it is helpful if information and materials are provided for them ahead of time. Professionals in early intervention programs can help by knowing what people to contact in the school district and when the appropriate time is to make contacts. It helps if a professional accompanies the parent(s) on the first visit to school. Parents need information about the laws and their rights, what to look for in a good program for hearing-impaired children, curriculum, and bussing, to name just a few items. They also need to understand that the assessment process will differ from what they are accustomed to and that the results may be disparate. When these hearing-impaired children enter school, there is usually an assessment policy in place; the policy includes personnel and procedures. Thus, these 3-year-olds are often tested in a strange room, by strangers who may not know sign,

using standardized tests that the children have never seen. Since developmental measures have been used longitudinally over the past several years by professionals and parents, these children do not have "test-taking" skills; for example, they do not know how to "point to the picture," on command. All of these factors may result in poor test performance and results which can be devastating to parents who have watched their child grow and progress over time. It helps if they are prepared for this possibility and know to 1) take a professional with them who knows their child, 2) request further testing, 3) request placement and observation before further testing, and 4) not sign the I.E.P. until they are totally satisfied with test results, placement, and program. In ECHI, during the year before the child enters school, we provide parents with information, both verbal and written, and accompany them on visits to school so that they can become acquainted with school personnel, policies, and environment. Even with prior planning, unfortunate incidences occur. It is impossible to anticipate every potential problem. However, when these do occur, at least the parents are prepared and know that they have back-up support from the ECHI staff. It is also important to let parents know that after their child has entered school, they are welcome to phone and ask questions or visit. This transitioning period is often difficult, and support may be

needed until parents and child feel welcome and comfortable in the new environment.

Summary

In summary, a model program for young hearing-impaired children and their families:

Is both home- and center-based

Involves the entire family

Develops an IFSP for each family

Assesses and monitors growth and change for both child and family;

Identifies new "needs" as appropriate

Provides content information and activities to assist the family and hearing-impaired child in all areas of development

Provides a support system for the family both through the program itself and through interaction with families

Provides a curriculum for each family, written in a language the family can understand

Provides goals and objectives developed in conjunction with the family

Attempts to empower parents through education and support so that they will become knowledgeable and can advocate for themselves and their child

Assists families in identifying and finding other resources; (agencies, individuals, and educational materials such as books, videotapes, etc.)

Assists families in understanding and using other agencies

Provides counseling services by an appropriately trained professional

Assists family in the process of transitioning into school

Provides consistent supervision and inservice training for staff

Is staffed by professionals who work as a team, both within the program itself and without -- with other agencies

Figure 10

Example of Beginning Language Activity

Program Activities

Step 1: The trainer should select 10 nominals from four categories: food, clothing, toys, and names of immediate family members. Your list might look like the following:

food	clothing	toys	names
banana	shoes	ball	Mommy
cookie	shirt	truck	Daddy
milk	diaper		

Select this "naming" vocabulary with the help of the parent(s) so that is reflects the interests of the individual child. This means that one child's list might include more clothing items whereas another child's list might include a greater number of food names. Write these 10 words down for the parent.

Step 2: From the list of 10 words, the trainer selects one that parent(s) feels is most important to the child (it might be the bottle, or a favorite blanket, etc.). Without the use of sign, the trainer demonstrates how to use this target word and object in several different situations, using body language and facial expression.

Example for trainer to suggest to parent:

> When Jenny wakes up in the morning and you go to get her up, take her bottle along. Show it to her, point to it, and tell her, "Bottle." "Here's your bottle." "You like your bottle." When she finishes, say, "You finished your bottle." "Mommy will take your bottle." Midmorning or at lunch, say, "Where's your bottle?" "Let's find your bottle." Go to the kitchen. "Here's your bottle." "We found your bottle." The same type of conversation can occur during the afternoon, at dinner, and at bedtime (if appropriate) without any extra "work" on your part.

After demonstrating to the parent, the trainer asks the parent to demonstrate the exercise, using either the trainer or the child as the recipient. The trainer assigns this activity to the parent for the next week, leaving a check sheet with parents so they can check off the times they use this activity each day during the week. The purpose of this activity is two-fold: 1) to demonstrate to the parent(s) the emphasizing language is not difficult, and 2) to help parents become completely comfortable with using language in a way that may be new to them. The goal is for them to use language targets automatically.

Steps continue, gradually adding signs and more complex language targets, as the parent is ready.

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Appendix A

Cognitive Skills Checklist

OBJECTIVES AND RECORDI

Hearing A

Developed by

KEY:	+	has skill
	-	does not have skill
	I	immerging

The student_____

1. Wears amplification all day
2. Lets someone know hearing aid is not working
3. Demonstrates ability to take aid off
4. Demonstrates ability to put aid on (earmold inserted properly)
5. Demonstrates ability to set volume appropriately
6. Demonstrates ability to test battery
7. Gets new battery if necessary and changes battery
8. Demonstrates ability to clean mold or get it cleaned when necessary
9. Demonstrates complete knowledge and care of hearing aid

NG FORMS FOR AUDITORY TRAINING

id Use/Maintenance

Marie Thompson, 1984

The student will:

A. AWARENESS:

A. 1. Demonstrate awareness to sounds;

When loud, sharp sounds occur/are presented, child blinks, jumps, quiets, looks up or around but does not localize. (Activities: p.)

B. LOCALIZATION:

B. 1. Location to sound; side to side;

When rounds (of appropriate intensity and pitch) are presented on right or left side, child turns appropriately. (Activities p.)

2. Localize to sound when sound source is above head.

3. Localize to sound when sound comes from below.

C. GROSS DISCRIMINATION:

C. 1. Demonstrate discrimination between noisemakers that differ significantly.

2. Demonstrate discrimination between noisemakers that sound much the same.

3. Demonstrate discrimination among non-speech sounds; animal noises.

4. Demonstrate discrimination among non-speech sounds; environmental sounds.

5. Comprehends suprasegmentals such as high-low, fast-slow, loud-soft.

D. FINE DISCRIMINATION:

D. 1. Demonstrates comprehension of known vocabulary using a carrier phrase.

2. Demonstrates a comprehension of simple one order directions within context-using known vocabulary.

3. Demonstrates comprehension of simple 2 order directions or two details within a closed context.

3 order
4 order

4. Demonstrates comprehension of known vocabulary within context not using carrier phrase.

5. Comprehends complex directions.

6. Comprehends intonational patterns such as questions, statements, exclamations.

7. Discriminate several connected sentence/passages read to him/her.

8. Discriminates between individual phonetic elements within known words.

9. Discriminates between individual phonetic elements matched to a printed letter.
Discriminates between minimal pairs.

ACTIVITIES

The following activities are only examples of what might occur. Resources for other activities are found in Appendix A. All activities are performed with the child wearing his/her hearing aid, first in quiet. Background noise is added only after students have demonstrated competency discriminating without noise. Always use Total Communication, gestures, etc., to teach the task.

A. AWARENESS

1. a. Always point out noises that occur. Tell child that noise is occurring and that you hear it. Point to object making the noise. If possible, repeat, e.g., loud slam of door.

   b. Engage child in quiet activity. Either make a loud noise or have someone else make a loud noise and observe child's response.

      1. If child responds, reinforce with smiles, praise, "You heard that!", etc.
      2. If child does not respond, repeat noise in full view of child. Indicate that child should listen and that your hear the sound.

   c. As child begins to demonstrate awareness to loud sounds, begin to use more moderate sounds; e.g., closing cabinet doors and running the water. Obtain any home equipment you can for the classroom such as blenders, mixers, etc., and use them in class. These same sounds will automatically be reinforced in the home.

B. LOCALIZATION

1. a. Start by using a noisemaker that is relatively low pitch and has sufficient intensity--such as a drum. The following steps using a drum may be used with any noisemaker when a child is being taught the process of localizing to sound.

   b. Place the drum (noisemaker) in front of the child and beat the drum - indicate that you hear the sound. Do this several times. Place the child's hands on the drum (if necessary) while you beat it thus providing the child with tactile, auditory and visual input.

   c. Allow the child to beat the drum, repeating "I hear that!"

   d. Have another adult play quietly with the child.

   e. Move the drum to one side of the child, still within peripheral vision and beat the drum.

      1. If the child looks toward the sound, reinforce with smiles, hugs, "good work," etc.
      2. If the child does not look, repeat the noise and tell the child to look and if necessary, gently guide the child's head to the appropriate position.

   f. Gradually move the drum or other noisemaker out of the child's vision until the child is responding to the auditory stimulus alone.

   g. Repeat as many steps as necessary in order to teach localization to the other side.

2. Continue by alternating sides, using different noisemakers and gradually increasing distance between child and noisemaker.

able to respond to sounds at an extreme distance. Also, depending upon the degree of hearing loss at various frequencies, some noisemakers may not be heard by some children. Start using voice and calling child's name. Remember, it is important to reinforce the child's localizing response. Use puppets, let them play with the noisemaker, make funny faces, give treats (cereal, raising) - whatever is necessary to get them to continue looking.

3. The same steps can be used to teach children to look up--then down in order to find the sound source.

C. GROSS DISCRIMINATION*

1. Discriminates between noisemakers that differ significantly.

   a. Begin with 2 noisemakers that the child is familiar with, can localize to, and that differ significantly.

   b. Place one of the noisemakers on the floor or on a table in front of the child.

   c. Make the noise. Either point to, pat, or pick up the object that made the noise.

   d. Tell the child, "Your turn." Repeat making the noise. Help the child point to or pat the object. Repeat this step until you are sure the child understands the task and what response is expected.

   e. Place a screen (e.g., a piece of cardboard) in between the child and the noisemaker. Assume a listening pose, make the noise--then remove the screen.

      1. If the child points to or pats the object, clap hands, smile, etc.
      2. If the child does not point/pat, assist the child. Repeat, if necessary until the child responds appropriately.

   f. Place the two noisemakers (without screen) in front of the child. Make the noise with one--have child point or pat. Then make the noise with the other. Have the child point/pat, etc.

   g. Place the screen between the child and the noisemakers. Make the noise with one.

   h. Remove the screen and ask "Which one?"

      1. If child responds correctly, reinforce profusely.
      2. If child does nothing, assist the child to make the correct response.
      3. If child selects wrong one, return to step f.

   i. Continue using some noisemakers until you are sure the child understands the task. Then use other dissimilar noisemakers the child is familiar with. Finally, add noisemakers he/she is not familiar with.

   j. The task can be made more difficult by using 3 or 4 rather than two noisemakers at the same time.

*NOTE: All of these steps may not be necessary for all children. They are provided for those children who have greater difficulty learning the required response. For many children, you may be able to start with step f.

2. Discriminates between noisemakers that sound much the same. Use steps in C.1., but use different noisemakers. For example, use a cowbell, and another bell with a slightly higher pitch or blocks hit together sharply and a drum.

   Variations:

   - Use duplicate noisemakers. Place two in front of child. Get behind child with matched noisemakers. Make the noise with one. Child points to correct one in front of him/her.
   - Use pictures of noisemakers. Place pictures in front of child. Get behind child, make noise. Child points to correct picture.
   - Let child be "teacher" and make noise. The adult has to point to, pat, shake correct noisemaker. Child has to say whether you are right or wrong.

3. Discriminates among nonspeech sounds; animal.*

   a. Begin with two animals and sounds the child is familiar with.

   b. Select two animals whose sounds are not similar such as a dog and cat or cow and horse.

   c. Follow the steps in C.1. Variations:

      -- "Hide" the two animals (the child can see where you put them). The child shuts his/her eyes. You make the sound and the child "finds" the right animal.
      -- Make up a story about the animals wanting to get inside on a stormy day. The child gets to move each animal inside a barn or some other building when they listen and find the correct animal.

4. Demonstrates discrimination among nonspeech, environmental, sounds. These sounds may include:

   -- classroom sounds, i.e., door slam, bell ring.
   -- outside sounds, i.e., children playing, ice cream truck.
   -- home sounds, i.e., toilet flush, telephone.
   -- transportation sounds, i.e., train, fire, truck.
   -- animal sounds.
   -- human non-speech, i.e., coughing, laughing.

   a. Begin with familiar, easy sounds such as book dropping and a car horn.

   b. Use natural sounds or make (or have parents make) audio tapes of sounds familiar to the child from home, the classroom and around the school building.

      When you make the tapes++, you may want to repeat the same pair several times and allow spacing between pairs of sounds. You can purchase commercial tapes but these are often not appropriate for hearing impaired children. Always listen to them before purchasing.

*NOTE: Teaching discrimination of these sounds assumes that the child has been exposed, over time, to looking at picture books and photographs of animals, seeing real animals, hearing the noises made over and over again and has demonstrated some interest in

c. Have the child move to the sound source or point to pictures of the sounds used.

d. Follow the steps in C.1.

5. Comprehends suprasegmentals such as high-low, fast-slow, loud-soft.

The vocabulary used to identify suprasegmental aspects of language also identifies concepts. Children must understand the concepts before they are able to correctly identify a noise, voice, etc., that is loud vs. one that is soft.

It is important that teachers provide adequate exposure to these concepts (loud-soft, etc.) with appropriate labels prior to requiring a student to identify them correctly.

a. fast-slow

-- After working together on walking fast and walking slow, alternate telling the student to walk fast, then slow.
-- Have the student make the car (truck) go fast, slow.
-- Run or skip fast and slow.
-- Listen to music and clap fast and slow.

b. high-low (use noisemakers, music, musical instruments, men's and women's voices)

-- children stand on a chair when they hear high frequency noisemakers/music/woman's voice and jump to the floor when they hear low tones of noisemaker/music/man's voice.
-- children reach for the sky for high sounds, stoop or squat very low for low sounds.
-- make a thermometer with movable colored ribbon. Child moves colored ribbon to top of thermometer for high sounds and moves it back to bottom of thermometer for low sounds.
-- children pretend to be snowflakes (leaves) blowing in the wind for high sounds and fall to the ground for low sounds.
-- student indicates high sound by raising hand and low sound by lowering hand.

c. loud-soft (quiet)

-- children run when music is loud, walk or stop when it is soft.
-- student points to picture of person yelling (mouth wide open) for loud and a person who is falling for soft.
-- children place hands over ears when music/voices are played loud and remove their hands when the recording is soft or quiet.

D. FINE DISCRIMINATION

1. Demonstrate comprehension of known vocabulary using a carrier phrase.

a. Select vocabulary words the student understands and find objects or pictures to match these words. The vocabulary could be spelling words or words taken from math, social studies, etc. For younger children, names of objects, people, animals.

b. Using T.C. review the vocabulary with the pictures.

c. Select a carrier phrase (or use one the student knows) such as "Show me" or "point to." Review the carrier phrase with the student to ensure that is understood.

d. Place two pictures representing two vocabulary words in front of the student.

e. Use T.C. and/or allow the student to watch your lips when using the carrier phrase.

NOTE: Comprehension of non-linguistic sounds is not a prerequisite to language related auditory learning, it is a parallel skill. The student may be working on development of linguistic and non-linguistic tasks at the same time.

NOTE: What is soft or quiet for some students will be "off" or sound gone for others. Individual tutoring and adjustment of sound may be necessary in such instances.

f. Cover your lips by placing a piece of cardboard approximately 5 inches from your lips as you say the target vocabulary word. Thus the student sees and hears the carrier phrase but must use auditory skills only for the target word.

g. Depending upon the student' ability, 5, 6 or 10 pictures can be presented.

Variations

- As children learn modifiers, have them discriminate between big ball and little ball, etc.
- Have the student select the correct picture and place it in a pocket chart or in the tray of the chalkboard.
- Make-up a card game. Have picture pairs of the vocabulary words. Use the carrier phrase, "give me..." and play a game similar to Go Fish. Whoever gets the most pairs wins.
- Use a game board. Each time student is correct, he/she moves forward a predetermined number of spaces and moves back when incorrect. When the student reaches the goal, he/she could have 5 minutes of free play.
- Each time the student is correct, he/she puts in a puzzle piece or removes one each time the answer is incorrect.
- Games can eventually be timed to see how long it takes the student to reach the goal or complete the puzzle.

2. Demonstrates comprehension of simple one order directions within context, using known vocabulary.

This task may be taught during normal daily classroom routines. If an individual child does not appear to learn, you may want to provide separate, individual tutoring.

Use of these activities assumes that the child has seen/heard the directions often over a period of time and has complete understanding of the vocabulary used.

When first introducing the use of auditory only directions:

- get the child's attention.
- give the direction at first so the chid can see and hear.
- repeat the direction using audition only.
- provide time for the child to follow the direction.
- if the child does not understand; either, 1) use visual and auditory, then auditory only again or 2) repeat auditorily and assist child in following the direction.

-- make sure the direction clearly fits the context; e.
math lesson would not fit the context (math) with
-- If a student is having a difficult time identifying a
another word or phrase typically heard at the sam
word/phrase.

a. Morning routines:

1. Take off your coat, sweater, jacket.
2. Hang up your coat, etc.
3. Put your lunch away.

b. Playing with the doll house or in the make-believe ho

1. Put baby to bed.
2. Get the chair.
3. Make daddy sit.
4. Fix dinner for baby.

c. Giving the doll a bath where a limited number of obje

1. Hand me the soap.
2. Find the washcloth.
3. Wash baby's hands, feet, etc.
4. Get the towel.
5. Dry the baby's hands, face, etc.

d. Playing with blocks (only if child knows colors).

1. Give me the blue block.
2. Find the red one.
3. Put the yellow block here (point).

e. Returning to class after recess/lunch.

1. John, please close the door.
2. Get your social studies book.
3. Get your pencil and a piece of paper.
4. Jerry, please come to the board.

3. Demonstrates comprehension of simple 2 order direct

As before, at first all activities must be taught using vi
auditory only.

g., at first telling the child to take off his/her sweater in the middle of a
in which the direction was given.
particular word or phrase, try to determine if it is being confused with
e time. It may not be realistic to ask the student to identify this

me area.

ects/actions are available.

tions or 2 details within a closed context.

sual and auditory cues before the student can be expected to respond to

a. During reading, have the student find the dog running, the man canoeing or the woman eating, etc., on a page where there might also be a boy running or a dog walking.

b. Have the student get a paper and scissors when crayons, paste and pencils are also available and could be appropriate.

c. From a story you have read, give them a choice of what to illustrate, e.g., The girl swimming when it could as easily be the girl jumping or eating.

d. Tell the student to get her boots and coat when hat, mittens, and sweater are also available.

Auditory training activities such as these should be used consistently and often throughout each school day until they expect to be able to use their hearing only at any time.

e. To increase difficulty -- increase number of details to identify:

-- find the big red ball when blue, little, yellow balls are also available.
-- find the man sitting on the ground when chair and a tree stump are also available.
-- Where is the little girl and boy?

4. Demonstrate comprehension of known vocabulary within context not using a carrier phrase.

a. Making jello, cookies, bread, etc.
Vocabulary: cup(s), spoon(s), measuring (cups, spoons), bowl, jello, lime, cherry, water, pan, hot, cold, pour.
Materials on table; children grouped around table.
Use name of individual child as you ask each one to get or do something.
Example:

-- Joan, give me the bowl please.
-- John, can you find the lime jello?
-- Jerry, here is the hot water. Pour it in the bowl.
-- Pat, please find the spoon. Give it to Mark.
-- Mark, you stir the jello and water, etc.

b. A class where appropriate dress is being discussed. Materials include pictures, swatches of materials, maybe a few items.
Vocabulary: work, play, date, movie, dance, business, material, matches, clashes, blend(s), appropriate (best), dress, suit, pants, warm, cold, color(s).
Student must identify swatch of material, picture, etc.

-- What material is good for work? (Where 3 or 4 swatches or pictures are available.)
-- What material is good for a football game?
-- Which material would keep you warm?, cool?
-- Which dress, pants, would you wear to a movie?
-- Find some colors that look good together, etc.

5. Comprehends complex directions.

Use known vocabulary and constructions during individual work or during regular classroom activities.

a. Playing with the doll: get the doll's shoes and put them on, take the doll's coat off and put it in the box.

b. Playing with a toy farm developed as part of a social studies' unit:

-- Get Farmer Brown and put him next to the barn.
-- Put the cow in the barn and shut the door.

c. Classroom routines.

-- Get your book and bring it to me.
-- Turn on the light and go sit down.
-- Put your reader away and get your pencil and paper.
-- Get your science book out and turn to page 39.

6. Discriminates several connected sentences/passages read to him/her.

a. Student can identify the topic of a short passage read to him/her by drawing or pointing to a picture.

Closed Set Task: The student is told he or she is going to hear a story about trees, the zoo, or the food store. The student listens and indicates by picture pointing which is correct.

Open Set Task: The student is read a passage about the zoo and must indicate to the reader the topic of the story.

The student demonstrates the ability to retrieve information from a passage, given prior knowledge of the topic and specific information to be retrieved.

Closed Set Task: The student is told that he or she will hear a story about the zoo and must listen for what kind of animals were at the zoo. Following the story, the student is asked to pick two animals that were at the zoo from the limited set of lion, tiger, bear, elephant, seal.

Open Set Task: The student is told he or she will hear a story about the zoo and is to listen for two things the animals eat. No response set is given.

NOTE: As the child becomes competent at using auditory only stimuli within an appropriate and limited context, teach the child to generalize the use of auditory input to other situations where the direction may not be expected. For example, when the child can always get a pencil out after recess in preparation for math, have him get a pencil either for himself or for you at different times during the day.

The student demonstrates the ability to retrieve information from a passage given prior information of only the topic.

Prior to hearing the story, the child is told only that it is about the zoo. Following the story, the child is asked, "What did the

The student demonstrates the ability to comprehend a passage given no prior information about its contents. Example: The child listens to a story about the zoo but is given no prior information about it. Following the story, he or she is asked to respond about its content (e.g., What was the story about? Name two animals that were at the zoo. What did the animals like to eat?).

b. Place several pictures that begin with the target sound and several that do not, in front of the student. Give the student some chips. Each time the student hears the target sound at the beginning of the word, he/she places a chip on the picture.

c. Initial sounds using a single picture.

1. Have two boxes, one with a picture of the target sound clipped to it, e.g, bus.
2. Give the students some chips.
3. Every time he/she hears the word bus, a chip goes in the box with a picture of the bus. Every time the student hears another word (not bus), a chip is placed in the box with no picture.

When student demonstrates discrimination of /b/ in initial sound, use a different sound as the target sound. Use sounds at first that are both visible and clearly audible before using more difficult sounds.

7. Comprehends intonational patterns.

a. Make small signs, each of which is one punctuation marker; either a period, a question mark, an exclamation point.

Read a sentence to the children, at first using lost of facial cues and body language and exaggerating the intonation. As you read the sentence, the child who has the appropriate punctuation marker holds it up.

b. Have a list of sentences typed. Students read sentence silently, then listen to sentence being read, then place correct punctuation mark at end of sentence.

c. When students are completely familiar with a story and perhaps have role-played parts of it, have them close their eyes and listen to a familiar sentence. Whoever knows what punctuation is appropriate raises his/her hand and gives answer.

8. Discriminates between individual phonetic elements within known words: use sounds in initial position first, then final, them medial.

a. Initial sounds using picture cards.

-- Use a group of pictures depicting vocabulary well known to the student.
-- Place 2 pictures in front of the student.
-- Say the names of the two pictures; e.g., baby, mother. emphasize the beginning sound /b/, then repeat the word baby. Use the sign letter /b/ and repeat /b/ and the letter b. Repeat the process.
-- Have the student listen as you say baby. Ask the student to show you which word starts with the /b/ sound. Help the student point, if necessary.
-- When the student understands the task, replace baby with another picture of a word beginning with /b/; e.g., boy.

b. Place objects in a bag, some with target sounds and som

-- Have child reach in and pull out object.
-- Ask child if that is "HER" sound.
-- If child says yes (and is correct), say the name of the
-- Each time the child is correct, he/she gets a star, or
-- If the child's answer is incorrect, say the word, empl
beginning sounds.

-- Tell the child to listen for his/her sound; e.g., b as i
-- Have child close eyes.
-- Say a word that begins with target sound.
-- Have child clap hands or stand up.
-- Any time child hears a sound that is not the target s

9. Discriminates between individual phonetic elements ma

Use vocabulary the student knows. Teach the task only

a. Place several pictures and cards with letters of the alpha
correct letter on the word.

b. Place pictures in front of the student. Have them listen

c. Place objects in a grab bag. There should be objects tha

-- Have cards with initial letter symbol printed on the
-- Have child reach in bag and pull out one object.
-- Child places object on appropriate letter.

10. Discriminates between minimal pairs.

ıe with foil sounds.

e object so the child can listen.
gets to move one space on a game board, etc.
hasizing the initial sound. PUll another object out and compare the

n ball.

sound, she does <u>not</u> clap or stand up.

atched to a printed letter.

if the students know the alphabet. Begin with initial sound.

abet in front of the student. Say a word and have the student place the

to the word and <u>write</u> the correct letter.

at begin with sounds child is working on.

m spread on table.